STAT

19 October 1965

U. S. Government
Washington, D.C.

Declass Review by NGA

Attention: Contracting Officer

STAT Subject: Contract
Task Order No. 02(100,677)65-1

Enclosure: A) Prototype Modulated-Light Film Viewing Tables
Monthly Narrative Report - September 1965
Two (2) copies

Gentlemen:

STAT forwards herewith enclosure a) in accordance with the reporting requirements under Item 4 of subject contract task order.

By copy of this letter we are forwarding three (3) additional copies of the report to the Technical Representative.

Should you have any questions or desire further information in this matter, please feel free to contact the undersigned.

Very truly yours,
ORIGINAL SIGNED BY

STAT

Contract Representative

ld

c: Technical Representative (w/enc.)
(3 copies)

STAT [redacted]

PROTOTYPE MODULATED-LIGHT FILM VIEWING TABLES

STAT CONTRACT NO. [redacted] TASK ORDER NO. 02(100,677)65-R

Monthly Narrative Report - September 1965

This is the third of a series of monthly narrative reports on the development of two prototype modulated-light film viewing tables. With these tables, photographic negatives or transparencies will be illuminated by a fast-moving spot of light whose intensity will be automatically varied to effect large-area contrast compression. This report covers the work performed by the [redacted] STAT

STAT [redacted] during the period from 22 August to 22 September 1965.

A. Current Status of Work

The electrical design of the prototype viewing tables has been completed, and system assembly and checkout are proceeding ahead of schedule. However the mechanical design, which has had to cope with such problems as repackaging, kinescope face-flattening, and counterbalanced microscope transport, is not yet completed. This effort is several weeks behind schedule, but is now proceeding satisfactorily.

The problem of finding a suitable kinescope facing material, one which has required considerable attention, has been solved. A thin cover glass weighing from six to eight ounces and laminated to the tube face with RTV-615 water-white silastic rubber will produce the desired results. Use of a newly-developed primer for the silastic will also eliminate the pink hue normally associated with amino-compound primers. The feasibility of this facing technique has been satisfactorily demonstrated with available glass samples.

The design of a microscope transport system employing a pivot pantograph mechanism has been started. Also, since the main concern for this system is with ease of (smooth) movement, one joint of the pantograph was fabricated with sapphire bearings and a chrome-plated steel shaft. The friction of this joint was too small to measure (with available equipment), even with a rough (simple ground) finish applied to the shaft. It was concluded that the sapphire bearings will be compatible with the requirements for low starting torque and comfortable operation of the microscope.

The designs of the tilt and rotation mechanisms and film transport system were nearly completed. Several minor improvements are being incorporated into the final designs. These latter will be completed during the next monthly period.

The investigation of various optical techniques has not yet yielded a satisfactory solution of the light pickup problem. Evaluation of the scheme using a cover sheet of plastic impregnated with fluorescent material indicated the desirability of further development; however, this is beyond the scope of the present program. Another technique employing a lucite horn along the top plane of the (viewing surface) protective glass proved unsatisfactory because the glass must lie in a well more than one and a half inches deep. A remote pickup is now being considered.

B. Problem Areas Encountered

1. The investigation of various optical techniques has not yet yielded a satisfactory solution of the light pickup problem. This subject has been given a very high priority.

2. The program is experiencing delays in the mechanical design of the prototype viewing tables. Modified cost and time schedules are being prepared for consideration by representatives of the Contracting Officer.

C. Projected Work for Next Monthly Period

1. Complete film transport system design, and begin fabrication effort.

2. Complete microscope transport system design, and begin fabrication effort.

3. Complete kinescope facing materials and techniques investigation, and begin fabrication effort.

4. Complete all other mechanical system designs, and continue fabrication and assembly efforts.

5. Complete light pickup and feedback techniques investigation, and begin fabrication effort.

6. Complete electronic system assembly and checkout.

7. Prepare and submit updated program cost and time schedules.

8. Prepare and submit proposed modifications to prototype development program.

D. Status of Fund Expenditures to End of Monthly Period

Funds expended at break-even level to 26 September 1965:

July	
August	
September	

STAT

E. Documentation of Verbal Commitments and/or Agreements During the Period

1. The alternate light pickup and feedback scheme using a cover sheet of plastic impregnated with fluorescent material will not be incorporated into the prototype table design. Preliminary evaluation of the technique indicated the desirability of further development which is, however, beyond the scope of the present program.

2. The technical representative of the Contracting Officer was apprised of an anticipated delay in delivery of several weeks. This delay, it was suggested, was dictated by underestimates of several problems and possible changes of scope. The project leader agreed to provide modified program cost and time schedules as soon as possible.

3. As a result of discussions held with representatives of the Contracting Officer, project personnel agreed to study and propose possible changes in the prototype table design. These were grouped under the titles: human engineering convenience items, operational items, and dual film drive.